Economic Policy Vignette

An Economic Perspective of Title II Regulation of the Internet

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July 2017

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Introduction

The bi-partisan Telecommunications Act of 1996 (Act) could not be clearer regarding regulation of the internet: "The Internet and other interactive computer services have flourished, to the benefit of all Americans, *with a minimum of government regulation*."[1] In light of this finding, the Act declares the policy of the United States is "to preserve the vibrant and competitive free market … for the Internet and other interactive computer services *unfettered by Federal or State regulation*."[2] Congress also made clear that information services are among the interactive computer services that should remain free from regulation, and that services that "provide[] access to the Internet" are information services.[3] The Act codified a pre-existing regulatory environment in which infrastructure providers and the larger ecosystem of content providers all felt free to innovate, invest and compete.

Economic measures of performance in this industry—price, output, innovations, and investment—all subsequently have pointed to the success of the "pro-competitive, de-regulatory national policy framework" established by the Act.[4] Such successes under a "results-based" approach to regulatory policy points toward the continuation of the policies that have produced such positive results.[5]

Despite this triumph of public policy, and despite Congress's directive to continue to leave the internet "unfettered by Federal or State regulation," in 2015 the Federal Communications Commission (the "FCC" or the "Commission") reclassified internet service providers (ISPs) as providers of telecommunications service in its Open Internet Order ("Order").[6] That decision subjects the internet to Title II of the Communications Act, relocating it to the heavily regulated public-utility sector. The Order represents a radical shift in policy, reversing nearly two decades of consistent, bi-partisan "light-touch regulation"[7] of the internet. As students of both

[1] 47 U.S.C. §230(a)(4) (1996), *emphasis added*.
[2] 47 U.S.C. §230(b)(2), *emphasis added.*
[3] 47 U.S.C. §230(e)(2).
[4] House of Representatives Report Number 104-458, at p. 1 (Conf. Rep.).
[5] See John W. Mayo, "The Evolution of Regulation: 20th Century Lessons and 21st Century Opportunities," *Federal Communications Law Journal*, April 2013, pp. 119-156 (describing the merits of a results-based orientation to regulatory policies).
[6] FCC, *Report and Order on Remand, Declaratory Ruling, and Order, Protecting and Promoting the Open Internet*, 30 FCC Rcd 5601 (2015) [hereinafter *Order*].
[7] The often-employed phrase "light-touch regulation" is not defined by either statute or regulation. The phrase has, however, most often been used as an affirmation of the Act's establishment of a "pro-competitive, de-regulatory national policy framework". It is that standard to which we hold the phrase. In this light, the imposition of common-carriage regulation under Title II is inconsistent with "light-touch regulation." It is neither "pro-competitive" (as any gains to competition from its imposition are speculative and rest on unfounded assertions of its pro-competitive

economics and regulation, we find that the present regulatory classification of broadband internet access fails to follow widely accepted economic principles.

In this *Economic Policy Vignette*, we describe several fundamental economic flaws associated with applying Title II regulation to the internet.[8] *First*, the imposition of Title II regulation relies on implausible theory and speculation about anticompetitive threats from broadband access providers. Ironically, Title II regulation may actually exacerbate the risk of anticompetitive conduct by broadband internet access service providers.[9] *Second*, the decision over-states the benefits from these additional regulatory controls and under-states the corollary costs that Title II imposes by failing to account appropriately for the overwhelming empirical evidence showing that long-standing light-touch regulation has, as Congress intended, produced a host of positive economic outcomes. *Third*, the perpetuation of a Title II regulatory framework recklessly dismisses evidence of the real threat to investment, innovation and output—substantial additional costs the FCC to this point has failed to consider properly. In sum, the analysis supporting regulation of the internet under Title II fails not only to weigh the economic costs of its new common carrier regime against likely *de minimis* benefits, but has also to this point fails to apply economic rigor to its evaluation of the record.

Gatekeeper Concerns Do Not Provide a Sound Foundation for Imposing Title II Regulation

The current imposition of Title II on ISPs relies on a flawed economic theory of market power to justify the FCC's significant expansion of the scope of regulation over Internet access.[10] In particular, it rests upon the idea that a broadband provider's position as a "gatekeeper" between consumers and information suppliers means that once a consumer chooses a broadband provider, that provider has a monopoly on access to the subscriber. With this perceived monopoly power, the internet service provider (ISP) can supposedly promote its own content or that of affiliates more than unaffiliated content providers, thereby damaging the open nature of the Internet.

consequences) nor "de-regulatory" (as even with specific exemptions the weight of Title II certainly increases regulation of internet access services).

[8] For a complete review of the relevant literature, see Mark A. Jamison, et al., "Title II Regulation of the Internet: What the Economics Literature Says," available at: http://warrington.ufl.edu/centers/purc/research/papers.aspx.

[9] See *infra* note 15.

[10] We recognize that the Order also anticipated that extending Title II regulation would prove beneficial by promoting free speech. While we do not consider these considerations here, see Michael L. Katz, "Wither U.S. Net Neutrality Regulation," *Review of Industrial Organization*, June 2017, pp. 441-468 for a thorough discussion.

But in contrast to this belief, competition in local broadband access markets is relevant to both the ability and incentive of ISPs to harm competition.[11] Indeed, the presence of competition compels ISPs to offer high quality services at attractive prices to prospective consumers in the hope they become actual customers. In the presence of a competitive choice for consumers, a firm's actual customer base is not, as envisioned by the 2015 Order, a collection of victims of monopoly but rather the manifestation of the firm's ability to provide economically attractive offerings. In this context, *ex ante* search by consumers and the quest by firms for new subscribers compels competing ISPs to offer attractive price-quality combinations *without comprehensive public-utility-style Title II regulation*.

The theory underlying the rationale for Title II regulation ignores these fundamental economic principles. Instead of recognizing the role of competition, the imposition of Title II regulation artificially narrows reality to the "monopoly" an ISP has once a consumer has selected a broadband provider. This implausible view of monopoly (true only in the literal sense that the customer may be being served by a single ISP at a given moment in time) is economically vacuous. The same "monopoly" could be said to exist for customers who have entered a movie theater or restaurant. Yet this everyday phenomenon has never been seen as a market failure demanding the imposition of comprehensive regulation.[12]

In theory, substantial switching costs facing consumers could enhance ISPs' market power by locking consumers to their initial broadband provider. In practice, however, data reveal that both a rapidly growing market (compelling competition for new customers) and the propensity of consumers to switch (compelling competition to retain customers) mitigate such concerns. Since just the end of 2010, the U.S. has added over 187 million internet subscriptions—subscriptions for which individual broadband providers had to compete.[13] And for mobile internet, consumer behavior data shows an astounding ability and propensity for consumers to discipline mobile broadband providers by switching suppliers. *Monthly* churn rates among consumers of U.S. mobile telephone service providers in 2016 was 2.2 percent with an annual disconnect rate of 26.5 percent, leading over 100 million Americans to disconnect from their wireless providers in 2016 alone![14] Even if one were to assume, counterfactually, that consumers are generally locked into a broadband provider, creating a terminating monopoly for that provider, recent economic analyses have shown that under these conditions the

[11] For a discussion of "competition" in general and in communications markets in particular, see Amanda B. Delp and John W. Mayo, "The Evolution of 'Competition': Lessons for 21st Century Telecommunications Policy," *Review of Industrial Organization*, June 2017, pp. 393-416.
[12] For an enumeration of rationales for the imposition of regulation, see Stephen Breyer, "Analyzing Regulatory Failure: Mismatches, Less Restrictive Alternatives, and Reform," *Harvard Law Review*, January 1979, pp. 547-609.
[13] See https://apps.fcc.gov/edocs_public/attachmatch/DOC-344499A1.pdf and https://transition.fcc.gov/Daily_Releases/Daily_Business/2014/db1016/DOC-329973A1.pdf.
[14] See CTIA, *CTIA's Wireless Industry Indices Report, Year-End 2016 Report*, May 2017.

imposition of Title II regulation can ironically actually increase the prospects for anticompetitive behavior by the regulated firm.[15]

Finally, the assertion that monopolistic abuses are likely in the absence of Title II regulation is belied by the actual industry performance in the era of light-touch regulation, which was overwhelmingly positive with only four isolated instances of troublesome behavior - among literally millions of opportunities for such behavior - and these were dealt with swiftly and effectively without Title II regulation.[16] In sum, the imposition of Title II rests on faulty economic grounds, which are not supported by either the logic or experience of the economics of this industry.

The Perpetuation of Title II Ignores Revealing Evidence of the Positive Impact of Congress's Light-Touch Regulatory Imperative and Underestimates the Potential Costs of Title II

The speculative and erroneous theory underlying the FCC's rationale for a sweeping increase in regulation is compounded by the fact that it ignores *actual, observed* positive economic outcomes in the provision of internet services that resulted from twenty years of light-touch regulation. Instead of the artificially constrained output, high prices and lack of innovation typically observed in monopolistic markets, the broadband ecosystem has been characterized by the opposite behavior.

The most basic measures of output in the communications industry are centered on connectivity (the proportion of society that is connected to the network) and use (the extent to which consumers utilize the network). In both regards, the output of broadband services has grown at staggering rates over the past twenty years. By the June 2016, internet access had grown to nearly 370 million connections, up from a mere 380,000 in 2005.[17] Indeed, a recent

[15] See Katz, 2015, *supra* note 10 at p. 451, (indicating, for example, that the current No-Unreasonable Interference/Disadvantage Standard may result in fewer vertical contracts that act to reduce double marginalization, thereby harming economic efficiency); and Timothy Brennan, "The Post-Internet Order Broadband Sector: Lessons from the Pre-Open Internet Order Experience," *Review of Industrial Organization*, June 2017, pp. 469-486 at p. 475.
[16] See, e.g., Larry Downes, "Unscrambling the FCC's Net Neutrality Order: Preserving the Open Internet-But Which One?" *CommLaw Conspectus*, November 2011, pp. 83-128; Gerald R. Faulhaber, "What Hath the FCC Wrought?" *Regulation*, Summer 2015, pp. 50-55; Hal J. Singer, "Mandatory Interconnection: Should the FCC Serve as Internet Traffic Cop?" PPI Policy Brief, PPI, May 2014, at p. 5, available at: http://www.progressivepolicy.org/wp-content/uploads/2014/05/2014.05-Singer_Mandatory-Interconnection_Should-the-FCC-Serve-as-Internet-Traffic-Cop.pdf (showing that major interconnection disputes have lasted between 0 and seven days); and Timothy Brennan, *supra* note 15.
[17] *Internet Access Services: Status as of June 30, 2016,* Figure 1; *Internet Access Services: Status as of June 30, 2009* at Table 1, FCC, available at: https://apps.fcc.gov/edocs_public/attachmatch/DOC-301294A1.pdf.

economic analysis indicates that the connectivity of American adults to the communications network grew substantially in recent years, with an average of 92 percent of adults connected over the course of the day, regardless whether they were at or away from their domicile.[18] And broadband-enabled smartphone data usage has skyrocketed.[19] In the wake of this success under light-touch regulation, the prospect for enhancing such growth through the imposition of Title II regulation would seem remote.

Despite this growth, concerns have continued regarding a digital divide, especially between rural and urban areas. Our understanding is that the current imposition of Title II regulation rests in part on the proposition that such regulation will ameliorate this disparity. A recent peer-reviewed economic assessment, however, concludes that "On balance, existing economic models with more realistic underlying structural assumptions predict that the Open Internet Order is more likely to result in higher last-mile prices, lower infrastructure investment, and poorer content quality and diversity."[20] The review concludes that by increasing last-mile prices, lowering infrastructure investment and harming content quality and diversity the imposition of Title II regulation of the internet "is more likely to worsen than improve the digital divide."[21]

As output has expanded dramatically, so too has the breadth and quality of broadband services while the price of internet services has actually fallen. Broadband speeds available to consumers either through a fixed or mobile platform have increased tremendously. For instance, by June 2016 fully 80 percent of fixed-line internet connections in the United States were offered at download speeds of 10 Mbps, while in 2010 only 14 percent exceeded even 6 Mbps.[22] Wireless broadband speeds have also increased substantially,[23] and the proliferation of smartphones adds increasing breadth of mobile broadband services. And while no quality-adjusted price index is available for internet access services, the price of internet services as computed by the U.S. Bureau of Labor Statistics fell by roughly 11 percent compared to the overall Consumer Price Index from 2010 to 2017.[24]

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[18] See, e.g., Jeffrey T. Macher, John W. Mayo, Olga Ukhaneva, and Glenn Woroch, "From Universal Service to Universal Connectivity," *Journal of Regulatory Economics*, forthcoming.

[19] See Federal Communications Commission, *Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services, Nineteenth Report*, September 2016, at ¶125, available at: https://apps.fcc.gov/edocs_public/attachmatch/DA-16-1061A1.pdf.

[20] See Michelle Connolly, Clement Lee, and Renhao Tan "The Digital Divide and Other Economic Considerations for Network Neutrality," *Review of Industrial Organization*, June 2017, pp. 537-554, at p. 552.

[21] See Connolly, et al., 2017, *supra* note 20 at p. 553.

[22] See Federal Communications Commission, Industry Analysis and Technology Division Wireline Competition Bureau, *Internet Access Services: Status as of June 30, 2016*, April 2017; and *Internet Access Services: Status as of December 31, 2013*, October 2014, (comparing Figure 2(a) and Figure 1, respectively).

[23] See, e.g., Federal Communications Commission, *supra* note 19, Table VI B1.

[24] See Bureau of Labor Statistics, *Consumer Price Index*, Series IDs: CUUR0000SA0, CUUS0000SA0, and CUUR0000SEEE03.

In response to the light-touch regulatory environment, investment and innovation—the means by which firms put infrastructure in place for supporting not only current but also future consumers—have likewise been extraordinary. In 1996, ISPs invested $24.8 billion, yet by 2015 annual broadband-related investments had reached a staggering $76 billion.[25] Over the past twenty years, investment in broadband networks reached nearly $1.5 trillion.[26] This massive investment is notable both for its magnitude and for the fact that this infrastructure investment occurred by creating a policy environment in which firms choose of the own volition to make private-sector investments while the nation increasingly struggles to find public-sector capital for infrastructure development.

For nearly a century prior to the Act, retail-level innovation in the communications industry was unremarkable. While telephones were differently shaped, the rotary dial had been replaced with a touchtone keypad, and direct dialing has replaced operator-mediated calls (first for local calling, next for domestic long distance, and then international calls), the wireline telephone and its features were fundamentally unchanged from 1920 to 1996. Since 1996, however, countless innovations have occurred within both the networks and consumer devices used to access them. As a result, consumers are now able to toggle seamlessly between voice, data and video services using both fixed and mobile broadband infrastructure. Such innovation does not happen in a vacuum—it is a product of the institutional environment created by policymakers.[27] It is, in short, no coincidence that the explosion of innovation that has come to define the communications sector over the past twenty years overlaps perfectly with the period of light-touch regulation.

In light of these economic successes it is difficult, if not impossible, to envision a compelling economic rationale for the FCC's finding that consumers and the American economy will be better served by public-utility regulation of the internet than by a policy framework that would regulate the internet in a manner much closer to that imposed on typical businesses. Non-utility industries are hardly outside the scope of public oversight, being subject to a wide range of consumer and competition protection laws and regulations, including those enforced by the Federal Trade Commission and the Antitrust Division of the U.S. Department of Justice.[28] Even if additional oversight and remedial regulation were deemed necessary in the future, the FCC has the authority to impose *ex post* remedies without resorting to the more restrictive Title II.[29] The

[25] https://www.ustelecom.org/broadband-industry/broadband-industry-stats/investment.
[26] https://www.ustelecom.org/sites/default/files/Broadband%20Investment%20Down%20in%202015.pdf.
[27] See, e.g., Luke A. Stewart, "The Impact of Regulation on Innovation in the United States: A Cross-Industry Literature Review," Information Technology & Innovation Foundation, June 2010, available at: http://www.itif.org/files/2011-impact-regulation-innovation.pdf.
[28] Ironically, by reclassifying the provision of internet access service as a common carrier under Title II, the FCC's current policy actually preempts the consumer and competition policy protections of the Federal Trade Commission, which exempt common carriers. See, e.g., 15 U.S.C. §45(a)(2).
[29] *Verizon v. FCC*, 740 F.3d 623 (D.C. Cir. 2014).

incontrovertible economic benefits delivered during the post-Act era of light-touch regulation easily overwhelm any hypothetical benefits of imposing common carrier, public utility-style Title II regulation on the internet.

Rather than seeking a less-restrictive, truly light-touch regulatory approach, however, the 2015 Order attempts to disguise the Title II wolf in a sheep's clothing of light-touch regulation. Despite the Order's protestations that Title II will be applied in a "light-touch"[30] manner, and promises that the Commission will forbear from Title II's most egregious regulatory requirements, the framework established by the Order retains all the economic regulation embodied in the original Sections 201 and 202. These sections are the heart of Title II's regulatory requirements crafted in 1934 for monopoly wireline telephone companies. Even if the Commission were to forbear from these regulations, the Title II regime will subject the internet to the very type of economic regulations that Congress rejected in 1996.

In sum, by ignoring the overwhelming evidence of twenty years of virtuous market performance, the Title II regulatory regime ignores both the Act's basic tenets and the readily observable benefits that emerged during the period of truly light-touch regulation of the internet.[31] And by imposing the most restrictive form of regulation at its disposal on this well-functioning market, the Title II approach substantially discounts the real economic costs that can reasonably be anticipated to result moving forward.

Retaining Title II Regulation Dismisses Real Threats to Innovation, Investment, and Output

Multiple studies focused on communications regulation find that increased regulation discourages investment and innovation. For example, one rigorous economic analysis examined the rate at which new communications services were introduced by regulated firms during a period when the FCC experimented with lighter regulation.[32] The study found that the number of services created during the period of lighter regulation was 60-99 percent higher than the model predicted if stricter regulation had remained in place. Cross-national studies have also found that regulatory stringency has had the effect of decreasing investment, innovation and productivity growth. The OECD found, for example, that deregulatory decisions in the United States and Japan in the late 1980s and early 1990s were followed by faster growth in new communications patents relative to Germany, France, and the United Kingdom, which did not

[30] See *supra* note 7 for a discussion of the inconsistent manner in which this phrase has been used.
[31] See *supra* note 5 describing the merits of a results-based orientation to regulatory policies.
[32] See James E. Prieger, "Regulation, Innovation, and the Introduction of New Telecommunications Services," *Review of Economics and Statistics*, November 2002, pp. 704-715.

relax regulatory controls.[33] And in a large cross-national study that included the United States, prominent economists found that regulatory stringency led to decreased investment both generally and specifically in the communication industry.[34] This literature makes clear that increased regulatory stringency in the communications sector will likely dampen investment and innovation.[35]

Turning specifically to the imposition of Title II regulation in the Order, the FCC has failed to heed the lessons of a natural experiment that occurred between 1996 and 2005 regarding disparate regulatory approaches to cable modem and DSL service. During that period, telephone companies providing internet access using existing telephone network "last-mile" transmission facilities were subject to Title II for that aspect of their broadband internet access service, while cable companies were not. Using modern econometric methods, one study demonstrated that the application of Title II slowed telephone company investment by roughly $1 billion per year, a 5.5 percent decline relative to the companies' 1996 capital expenditures.[36] Other peer-reviewed research studies have examined these data and other empirical evidence regarding the impact of Title II regulation on firms' investment propensities and reach similar conclusions regarding the investment-depressing consequences of this regulatory framework.[37]

The post-Order data are also revealing. In the wake of the imposition of Title II regulation on the ISPs, U.S. broadband investment has actually declined. A recent analysis indicates that broadband investment in 2016 declined by $3.6 billion relative to 2014 levels.[38] While this decline may have several contributing causes and there are few post-Order observation points, the reductions are consistent with the investment-dampening features of Title II regulation that were identified before it was implemented.

[33] See OECD, *Communications Outlook 1995*.
[34] Alberto Alesina, Silvia Ardagna, Giuseppe Nicoletti, and Fabio Schiantarelli, "Regulation and Investment," *Journal of the European Economic Association*, June 2005, pp. 791-825.
[35] See also, Kevin A. Hassett and Robert J. Shapiro "Regulation and Investment: A Note on Policy Evaluation under Uncertainty, with an Application to FCC Title II Regulation of the Internet," July 2015, available at: http://www.sonecon.com/docs/studies/HassettShapiro_Policy-EvaluationunderUncertainty-Georgetown-July-2015.pdf.
[36] See Hal J. Singer, "Three Ways the FCC's Open Internet Order Will Harm Innovation," PPI, May 2015, available at: http://www.progressivepolicy.org/issues/economy/three-ways-the-fccs-open-internet-order-will-harm-innovation.
[37] See Thomas W. Hazlett and Joshua D. Wright, "The Effects of Regulation on Broadband Markets: Evaluating the Empirical Evidence in the FCC's 2015 'Open Internet' Order," *Review of Industrial Organization*, June 2017, pp. 487-508; and Thomas W. Hazlett and Anil Caliskan, "Natural Experiments in Broadband Regulation," *Review of Network Economics*, December 2008, pp. 460-480.
[38] See https://haljsinger.wordpress.com/2017/03/01/2016-broadband-capex-survey-tracking-investment-in-the-title-ii-era.

Independent of any impact Title II regulation may have on the *level* of investment, its imposition may alter the *mix* of investments.[39] Such skewing of investment across firms, technologies, or geographic areas harms economic efficiency and threatens the future economic vitality of not only the industry but also the larger economy. For example, regulatory changes in the U.S. that provoke U.S. telecommunications companies to make investments outside the U.S. may slow the deployment and therefore adoption of broadband in the United States. Similarly, to the extent regulation drives telecom firms to invest in legacy technologies rather than newer and more capable digital technologies, 21st century digital customers are likely to be disadvantaged, independent of any effects of regulation on the level of firm investment.

In adopting the Title II regulatory framework for the internet, the FCC acknowledged a potential threat to investment and innovation from regulation generally, but argued that the Title II reclassification would prove the exception to the rule established by the existing economic literature.[40] The Commission offered three primary rationales for this counter-experience conclusion.

First, the Commission argued that demand and competition are key drivers of investment and that these factors would continue to drive demand even in the presence of Title II regulation. This argument is misplaced. The relevant policy question is not whether some extant economic factors will continue to drive investment, but whether the proposed regulation will reduce baseline levels of investment.

Second, the Commission drew on casual observations to conclude that "sensible regulation and robust investment are not mutually exclusive."[41] Specifically, the Order pointed to observed increases in investment following the Act despite increased interconnection and line-sharing regulations imposed at the time on local exchange carriers. This claim, however, fails to isolate the effects of regulation imposed on local exchange companies—which has been shown to depress investment—from the critical pro-investment reductions in entry barriers that were also part of the Act. As such, the aggregate increases in investment in the wake of the Act cannot be taken as convincing evidence that increasing regulation is not a deterrent to investment.

[39] For a complete discussion, see John W. Mayo, "Regulation and Investment: Sk(r)ewing the Future for 21st Century Telecommunications?" Economic Policy Vignette, Georgetown Center for Business and Public Policy, June 2016, available at: http://cbpp.georgetown.edu/publications/regulation-and-investment-skrewing-future-21st-century-telecommunications.
[40] *Order* ¶414.
[41] *Order* ¶414.

Third, the Commission argued that Title II reclassification created "regulatory predictability," offsetting investment-dampening effects that would otherwise stem from dramatically increased regulation. Setting aside the issue of whether the imposition of Title II increases or decreases regulatory uncertainty, the argument does not support the current Title II regime. The question is not whether Title II provides regulatory predictability but rather whether it does so in a manner that minimizes disruptions to investment and innovation. The salute to "regulatory predictability" ignores the potential for any other policy alternative to similarly create "regulatory predictability" with lower risk to investment. The current policy framework thus wrongly dismisses evidence of the depressing effects on broadband investment that result from the imposition of a Title II regime, and thereby significantly underestimates Title II's cost to the American economy.

Conclusions

Innovation is the hallmark of the internet industry. American consumers and producers are immensely better off for the dynamic internet environment that unfolded in the absence of imposing common-carrier regulation on the internet in 1996. Given the unmitigated success of that truly light-touch regulation, the perpetuation of Title II's public-utility style regulatory framework for the internet is economically ill-founded.[42]

[42] For a more detailed defense of this "results-based" approach to regulation, see John W. Mayo, *supra* note 5, and John W. Mayo "Results-Based Regulation: 20th Century Lessons and 21st Century Opportunities," Economic Policy Vignette, Georgetown Center for Business and Public Policy, September 2015, available at: http://cbpp.georgetown.edu/publications/results-based-regulation-20th-century-lessons-and-21st-century-opportunities.

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